MONTHLY WEATHER REVIEW.

VOL. XIV. WASHINGTON CITY, SEPTEMBER, 1886. No. 9.

INTRODUCTION.

This REVIEW contains a general summary of the meteorological conditions which prevailed over the United States and Canada during September, 1886, based upon the reports from the regular and voluntary observers of the Signal Service and from co-operating state weather services.

Descriptions of the storms which occurred over the north Atlantic Ocean during the month are also given, and their approximate paths shown on chart i. In tracing the centres of the paths of these storms, data from the reports of one hundred and eighty vessels have been used.

Icebergs, in limited numbers, were reported in, and to the eastward of, the Strait of Belle Isle, at intervals during the month. To the eastward of Newfoundland isolated bergs were encountered as far south as Cape Race.

The atmospheric pressure for the month has been greatest over the eastern part of the country and least over the central and western portions. In the eastern sections it averaged about 0.5 above the normal; in the Mississippi Valley, and westward to the Pacific Ocean, it was normal or nearly so.

Over the eastern portion of the country and greater part of the Mississippi Valley the month has been about one degree warmer than the average September.

The precipitation was largely deficient in the Ohio Valley, east Gulf States, and all states bordering on the Atlantic Ocean, producing a drought which retarded the growth of newly sown wheat, but the clear weather was rather favorable to the cotton interests. In the western Gulf states and Rio Grande Valley it was very largely in excess of the normal, the total rainfall at Brownsville, Texas, being 30.57 inches, and at Galveston, Texas, 13.31 inches.

On chart i for this month are traced the paths of eleven areas of low pressure; the average number for September during the last fourteen years being 9.2.

The most severe storm of the month occurred over the west Gulf coast, the centre of which passed near Brownsville, Texas, on the night of the 22d, causing easterly, followed by westerly, gales at that place.

During September numerous earthquake shocks were felt throughout the Southern States, but all of them were light, doing no damage.

In this REVIEW will be found a table showing the dates of the first snows at all Signal Service stations east of the Rocky Mountains for each winter from the winter of 1873–'74 to that of 1885–'86, inclusive.

In the preparation of this REVIEW the following data, received up to October 20, 1886, have been used, viz., the regular tri-daily weather-charts, containing data of simultaneous observations taken at one hundred and thirty-three Signal Service stations and twenty Canadian stations, as telegraphed to this office; one hundred and sixty-four monthly journals; one hundred and fifty-nine monthly means from the former, and twenty monthly means from the latter; two hundred and seventy-six monthly registers from voluntary observers; fifty-eight monthly registers from United States Army post surgeons; marine records; international simultaneous observations; marine reports through the co-operation of the "New York Herald Weather Service;" abstracts of ships' logs furnished by the publishers of "The New York Maritime Register;" monthly weather reports from the local weather services of Alabama, Georgia, Indiana, Illinois, Iowa, Minnesota, Missouri, Nebraska, New England, Ohio, and Tennessee; trustworthy newspaper extracts, and special reports.

ATMOSPHERIC PRESSURE.

[*Expressed in inches and hundredths.*]

The distribution of mean pressure for September, 1886, determined from the tri-daily telegraphic observations of the Signal Service, is shown by isobarometric lines on chart ii.

An examination of the chart will show that the area of maximum pressure, enclosed by the isobar of 30.10, extends along the Atlantic coast from Eastport, Maine, to northern Georgia; the southern part of the area extends as far inland as Nashville, Tennessee; within this line the mean pressure for the month ranges from 30.10 to 30.13. To the westward of this isobar the pressure decreases until a minimum, bounded by an isobar of 29.80, is reached. This area of minimum pressure covers southeastern California, southern Nevada, and western Arizona. Two areas of low pressure, indicated by the isobar of 29.90, are also shown; one extends over northern Dakota and northeastern Montana; the other covers the extreme southern portion of Texas. The departures from the normal pressure are given in the table of miscellaneous meteorological data, and are also shown on chart iv by lines connecting stations of equal departure. The mean pressure for the month, when compared with the normal, shows very small departures; including the valley of the Mississippi, the upper lake region, and westward to the Pacific Ocean, the pressure is about normal, the greatest departures being only .03 above or below. Two exceptions to this statement are to be noted, viz., over a small area covering the northern part of Minnesota and Dakota the mean pressure for the month is .05 below the normal. At Tatoosh Island, Washington Territory, an excess of .07 occurs. In New England, the middle and south Atlantic states, the east Gulf states and Florida, an excess of .04 to .08 occurs. The lower lake region shows a departure of .02 to .04 in excess of the normal.

As compared with the mean pressure of the preceding month, August, 1886, an increase occurs in nearly all parts of the country, the only exceptions being a small area in northern Minnesota and Dakota, and the stations of Brownsville, Texas, Yuma, Arizona, and Fort Canby, Washington Territory, where the pressure for September coincides with, or is slightly below, that of August In that portion of the United States lying to the eastward of the Mississippi River the increase varies from .10 in the east Gulf states, Tennessee, Ohio Valley, and the lower lake region to .15 in New England and the middle Atlantic states. Over the central and western sections the increase varies from .01 to .07, although in Idaho, Nevada, and the western portion of Washington Territory the increase averages .12.